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REMARKS

Claims 1, 3 and 5 remain pending in the application. Claims 2, 4 and 6-8 are withdrawn from further consideration. Claims 1-8 have been amended. Reconsideration of the rejection and allowance of the pending application in view of the following remarks are respectfully requested.

As an initial matter, Applicants wish to thank the Examiner for considering U.S. Patent Application Publication No. 2004/0061247, the English language abstract of Japanese Patent Publication No. 2003-59124, the English language abstract of Japanese Patent Publication No. 10-40584, the English language abstract of Japanese Patent Publication No. 10-249264, and the English language abstract of Japanese Patent Publication No. 2004-39149, which were cited in the Information Disclosure Statements (IDSs) filed on May 3, 2004 and June 21, 2004. However, Applicants note that the Examiner has not indicated that he considered the above-noted underlying Japanese patent publications themselves (JP 2003-59124, JP 10-40584, JP 10-249264, and JP 2004-39149). The Examiner is respectfully requested to indicate such consideration in the next Official communication.

Applicants respectfully submit that, under sections 609.04(a)(III) and 609.05(b) of the M.P.E.P., the Examiner must indicate his consideration of the above-noted Japanese patent publications, as Applicants have provided concise explanations of their relevance, in the form of the English language abstracts (which the Examiner has indicated that he has considered). Applicants respectfully request the Examiner to initial the appropriate spaces on the PTO-1449 Form which was provided with the IDS filed on May 3, 2004 to indicate that

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he has considered the above-noted Japanese patent publications, and to forward a copy of the initialed PTO-1449 Form to Applicants with the next Office communication.

As to another matter, Applicants note that the Examiner has not yet indicated whether the drawings filed on January 23, 2004 are acceptable. Applicants respectfully request the Examiner to indicate the acceptability of the drawings in the next Official communication.

In the Office Action, the Examiner rejected claim 1 under 35 U.S.C § 103(a) as being unpatentable over Westerman (U.S. Patent No. 4,581,188) in view of Layman (U.S. Patent No. 3,728,062), Herbst et al. (U.S. Patent No. 3,970,023) and Hiroshi et al. (Japanese Patent Publication No. 58-175630). Applicants respectfully traverse the rejection for at least the following reasons.

In the specification of the present application, Applicants disclose an embodiment of an optical recording medium-manufacturing apparatus for manufacturing an optical recording medium by forming a central hole that extends through a disk-shaped substrate and a resin layer formed on a first side of the disk-shaped substrate. A second side of the disk-shaped substrate has a recess. The disk-shaped substrate includes a positioning hole which has a diameter smaller than a diameter of the recess. A center of the positioning hole is aligned with a center of the recess.

The optical recording medium-manufacturing apparatus includes, inter alia, a cut-forming machine installed at a first processing location, a punching machine installed at a second processing location, and a transfer mechanism which is configured to transfer the disk-shaped substrate from the first processing

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location to the second processing location. The cut-forming machine is configured to cut a circular cut in the resin layer, and the punching machine is configured to punch the central hole. Because the recess is formed in the disk-shape substrate, the central hole can be formed by punching only an extremely thin layer, thus requiring little force to punch the central hole.

The cut-forming machine and punching machine each include a positioning protrusion which has a truncated conical shape and which is configured to fit in the positioning hole of the disk-shaped substrate to position the disk-shaped substrate. The positioning protrusions enable the disk-shaped substrate to be securely and easily positioned at the cut-forming and punching machines, since the center of the recess of the disk-shaped substrate can be placed on the positioning protrusions.

The disclosed transfer mechanism includes a transfer stage having a plurality of disk-placing recesses, and an indexer which is configured to transfer the disk-shaped substrate from the first processing location to the second processing location by rotating the transfer stage. Each of the disk-placing recesses include a bottom having a working hole configured to allow the cut-forming machine and the punching machine to contact the disk-shaped substrate when it is placed in a disk-placing recess.

As compared to general transfer mechanisms which require long pivot arms, the optical recording medium-manufacturing apparatus disclosed by Applicants does not occupy a large area of space. Further, since the disclosed transfer mechanism transfers the disk-shaped substrate only by rotating the transfer stage, an accurate transfer is accomplished, as the transfer mechanism

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does not drop the disk-shaped substrate off during transfer, or set it in the punching machine at an incline. Further, since the disk-shaped substrate is processed without removing the disk-shaped substrate from the disk-placing recess, less space is occupied by the optical recording medium-manufacturing apparatus.

Westerman is directed towards a transfer apparatus for an automated molding press 10 which molds records. Westerman discloses, at col. 2, lines 58-62 and col. 3, lines 20-29, that the molding press 10 includes a transfer apparatus 12 which transfers molded, untrimmed records 36 from a molding station 14 to a flash trimming station 16.

Layman is directed towards a process for forming articles from sheet material with a thermoforming apparatus.

Herbst is directed towards a tooling arrangement for end closure scoring.

Hiroshi is directed towards a cutting method for synthetic resin material. In this regard, as the Examiner did not provide Applicants with an English language translation of Hiroshi, Applicants submit herewith an English language abstract of Hiroshi, as a courtesy to the Examiner.

Applicants respectfully submit that Westerman fails to disclose or suggest that the records have a recess, or a positioning hole which has a diameter smaller than a diameter of a recess. Applicants further submit that Layman, Herbst and Hiroshi fail to even suggest a disk-shaped substrate. Rather, Applicants submit that Layman is directed towards processing a thermoplastic sheet (see col. 1, lines 4-9 of Layman), Herbst is directed towards processing a metal can (see col. 1, lines 6-16 of Herbst), and the English language abstract of

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Hiroshi does not disclose the type of object which is processed by Hiroshi's cutting method.

Thus, Applicants respectfully submit that the combination of Westerman, Layman, Herbst and Hiroshi fails to disclose or suggest an optical recording medium-manufacturing apparatus for manufacturing an optical recording medium by forming a central hole that extends through a disk-shaped substrate having a recess, and a positioning hole which has a diameter smaller than a diameter of the recess, where a center of the positioning hole is aligned with a center of the recess, as recited in Applicants' independent claim 1.

In the Office Action, the Examiner acknowledges that Westerman's automated molding press 10 does not include a cut-forming machine that forms a circular cut in the resin layer formed on a side of a disk-shaped substrate, or a punching machine that punches a central hole in a disk-shaped substrate. As Layman, Herbst and the English language abstract of Hiroshi do not disclose any processing of a disk-shaped substrate, as discussed above, Applicants respectfully submit that Layman, Herbst and the English language abstract of Hiroshi also fail to disclose or suggest a cut-forming machine configured to cut a circular cut in a resin layer formed on a disk-shaped substrate, or a punching machine configured to punch a central hole through a disk-shaped substrate and a resin layer formed on the disk-shaped substrate, as recited in Applicants' independent claim 1.

Further, as neither Westerman, Layman, Herbst nor Hiroshi disclose an apparatus which includes a cut-forming machine and a punching machine, Applicants submit that Westerman, Layman, Herbst and Hiroshi also fail to

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disclose or suggest a transfer mechanism which is configured to transfer a disk-shaped substrate from a first processing location, at which a cut-forming machine is installed, to a second processing location, at which a punching machine is installed, as recited in Applicants' independent claim 1.

Applicants further submit that Westerman, Layman, Herbst and Hiroshi fail to disclose or suggest the positioning protrusions of the cut-forming machine and punching machine, or the indexer configured to transfer a disk-shaped substrate by rotating a transfer stage, as recited in Applicants' independent claim 1.

For at least these reasons, Applicants respectfully submit that the 35 U.S.C. § 103(a) rejection of Independent claim 1 is improper, and respectfully request the Examiner to withdraw the rejection and allow claim 1.

In the Office Action, the Examiner rejected claims 3 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Westerman, Layman, Herbst and Hiroshi, and further in view of Boitnott et al. (U.S. Patent No. 5,863,170). Applicants respectfully traverse the rejection for at least the following reasons.

Applicants respectfully submit that Boitnott fails to overcome the above-noted deficiencies of the combination of Westerman, Layman, Herbst and Hiroshi, as Boitnott is directed towards a modular semiconductor wafer processing system, and thus fails to disclose or suggest cutting or punching a disk-shaped substrate. Thus, even if one attempted to combine the various references in the manner suggested by the Examiner, Applicants submit that such a combination would fail to result in Applicants' claimed invention, as such a combination would at least lack the claimed cut-forming machine, punching machine, and transfer mechanism.

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For at least these reasons, Applicants respectfully submit that the 35 U.S.C. § 103(a) rejection of dependent claims 3 and 5, which depend from claim 1, is improper, and respectfully request the Examiner to withdraw the rejection and allow claims 3 and 5.

Applicants further submit that withdrawn claims 2, 4 and 6-8 are in condition for allowance, at least in view of their dependency on claim 1. Thus, Applicants respectfully request the Examiner to rescind the withdrawal of claims 2, 4 and 6-8 from further consideration, and to indicate the allowability of claims 2, 4 and 6-8 as well.

Based on the above, it is respectfully submitted that this application is now in condition for allowance, and a Notice of Allowance is respectfully requested.

#### **SUMMARY AND CONCLUSION**

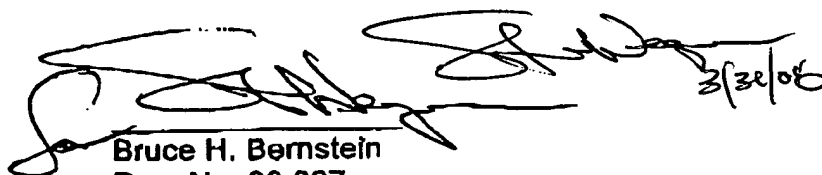
Entry and consideration of the present amendment, reconsideration of the outstanding Office Action, and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate. Applicants have made a sincere effort to place the present invention in condition for allowance and believe that they have now done so.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

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Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,  
Junichi IDE et al.

Handwritten signatures of Bruce H. Bernstein and Steven Wegman. The signature of Bruce H. Bernstein is on the left, and the signature of Steven Wegman is on the right. The date 3/30/06 is written at the end of the signatures.

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Enclosure: English language abstract of  
Japanese Patent Publication No. 58-175630



Searching PAJ

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 58-175630  
 (43)Date of publication of application : 14.10.1983

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(21)Application number : 57-059388

(71)Applicant : MITSUBISHI RAYON CO LTD

(22)Date of filing : 09.04.1982

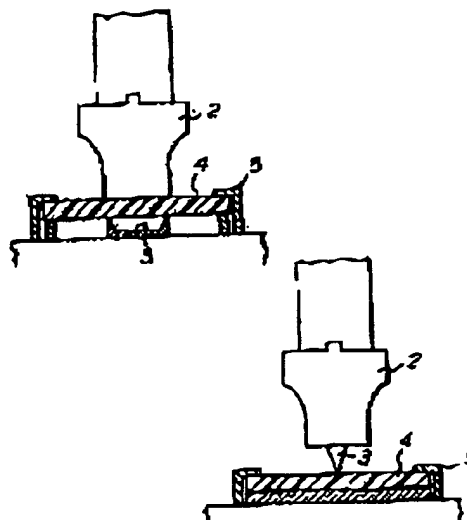
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## (54) CUTTING METHOD FOR SYNTHETIC RESIN MATERIAL

## (57)Abstract:

PURPOSE: To cut synthetic resin with smooth and lustrous surface by a method in which the metal die with knife like section having an acute angle at cutting edge is equipped to the tip of the horn in an ultrasonic vibration device, and the part to be cut is pressurized with the concentration of ultrasonic vibration.

CONSTITUTION: The metal die 3 with knife like section having an acute angle at cutting edge is equipped to the tip of the horn 2 in an ultrasonic vibration device. Ultrasonic vibration energy is supplied to synthetic resin material (e.g. thermosetting resin such as acryl resin) by the ultrasonic frequency of higher than 15,000Hz (preferably 20,000Hz) in the range of 1W100 $\mu$ m amplitude of the tip of the horn 2, and further pressure is added to the resin, thereby, achieving the cutting.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]